WASHINGTON STATE
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WAACCA
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Washington Air Conditioning Contractors Association
5727 Baker Way NW, Suite 200
Gig Harbor WA 98332

October 14, 2022

Washington State Building Code Council
PO Box 41401
Olympia, WA 98504-1401

Dear Members of the Washington State Building Code Council:

I am writing to you on behalf of the Washington Air Conditioning Contractors Association(WA ACCA) to express our concerns with the proposed rule WSR 22-17-149, the proposed 2021 Residential Energy Code. WA ACCA represents residential HVAC contractors across the state of Washington. As professionals working with HVAC systems on a regular basis, we are concerned that this code will significantly and unnecessarily increase costs for homeowners/homebuyers in Washington State.

In particular, we want to address the requirement to install heat pumps in all new residential construction. While this sounds simple on paper, in actual practice there are so many variables involved in putting HVAC systems into homes that this requirement will actually be very difficult and expensive because:

- L&I Electrical Code does not allow HVAC Specialty Electricians to connect indoor and outdoor units of ductless mini-split systems (despite all other states, including California, allowing HVAC specialty electricians to do this work. This means more delays and additional costs to the homeowner, builder, and HVAC technician to wait for an 01 or 02 electrician – many of whom do not receive specific training on these connections – to do the work. The wall is left open until the connection is completed.
- The upfront cost of heat pumps can be a hurdle in building affordable entry-level houses.
- Requiring new homes to have heat pumps for space heating limits energy choice for homeowners and increases the cost of buying a new home. Eastern Washington will need supplemental heat sources during cold periods; this adds more upfront costs for Eastern Washington homebuyers.
- Heat pump systems are still severely backlogged due to supply chain disruptions and increased demand in Washington based on the 2018 energy code.
    - This could get worse in 2023 and beyond as the supply chain continues to struggle with meeting increased demand due to California's new heat pump mandate, the move to HSPF2, and changes required in manufacturing as refrigerants such as HFCs are phased out in favor of A2L refrigerants.
- There is a disconnect between the building code and the planning/zoning codes' setback requirements. The outside compressor location is often a challenge with single-family construction. Setback requirements and laws concerning decibel levels at the property line restrict the available locations for the unit. We have had several instances in Seattle

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for instance where the noise ordinances prohibit us from putting in efficient heat pump systems.

We believe the options table in the code, on its own, actually provides the necessary incentive for heat pumps as a cooling and heating option without putting in an absolute mandate. By using the options table, our professionals are able to work with architects and designers with more flexibility to find the system needed for the home that is the most cost-effective and efficient based on the variables for that particularly home. This need for flexibility this year due to supply chain issues was evidenced in our request to allow HSPF 10.0 heat pump systems with other efficiency creating options to achieve the same credits as an 11.0 system.

If the heat pump mandate for new residential construction is to remain, we recommend the following changes/additions:

1) Delay the effective date to:
    a. provide time for manufacturers to adapt supply to the California mandate
    b. Allow for the Department of Ecology to finalize rules related to HFC refrigeration requirements and provide manufacturers time to adapt processes
    c. Allow more technical review of the proposal by HVAC experts to be sure all exceptions are captured.
2) Adopt a "crosswalk" to provide clarity regarding systems under HSPF 2 that match the requirements in the code. We believe the Washington State University Energy Program has submitted a letter with a proposed crosswalk currently being used by industry. We support the proposal in that letter.
3) Adopt language in the code that allows builders, architects and HVAC system designers to provide flexibility options that can match code and credit requirements in the event there is a problem getting the exact systems needed or the home itself requires variances. This should be something building officials can review and approve under guidance from the state.
4) Sunset the heat pump mandate if the Department of Labor & Industries does not adopt rules allowing HVAC Specialty Electricians to run the communication wires between outdoor and indoor ductless mini split systems. Without this change, the workforce shortage for installations of the ductless systems (probably the most cost effective under the code) will be immense – increasing delays and homeowner/builder costs.

We also want to express specific concerns regarding the proposal to require heat pump water heaters in new residential construction.

- Heat recovery time for heat pump water heaters lags behind tankless water heaters. This isn't suitable for larger families. If homeowners are set on "hybrid" mode, allowing electric resistance heating elements to operate instead, efficiency will be reduced. This defeats the purpose of this code change.

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- Another proposal requires water heaters to be installed in the building's thermal envelope (which does not include a garage) so these systems will be placed within the home. Venting the cold air emitted from the heat pump water heater will need to be explored or homeowners will be paying to heat their water heaters. In addition, these systems emit a significant amount of noise that many homeowners do not want in their house.

We would recommend that the Council allow more variety in the type of electric hot water heater that can be installed in the home so the architect, builder, plumbers, etc… can design the most energy efficient system for that home and that family. In addition, we recommend the code clearly allow all heat pump hot water heaters to be installed in garages.

We appreciate your consideration of our comments.

Sincerely,

Craig Olson
President
WA Air Conditioning Contractors Association